

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing:

29 March 2001 (29.03.01)

International application No.:

PCT/JP00/06267

Applicant's or agent's file reference:

P00-925

International filing date:

13 September 2000 (13.09.00)

Priority date:

21 September 1999 (21.09.99)

Applicant:

YOSHIDA, Satoshi et al

1. The designated Office is hereby notified of its election made:

☒

in the demand filed with the International preliminary Examining Authority on:

31 January 2001 (31.01.01)

☐

in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

HATORI, Osamu
Akasaka HKN Bldg. 6F
8-6, Akasaka 1-chome
Minato-ku
Tokyo 107-0052
JAPON



Date of mailing (day/month/year) 29 March 2001 (29.03.01)		
Applicant's or agent's file reference P00-925		IMPORTANT NOTICE
International application No. PCT/JP00/06267	International filing date (day/month/year) 13 September 2000 (13.09.00)	Priority date (day/month/year) 21 September 1999 (21.09.99)
Applicant KAO CORPORATION et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

CN,EP

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 29 March 2001 (29.03.01) under No. WO 01/21123

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38



PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

**NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT**

(PCT Administrative Instructions, Section 411)

To:

HATORI, Osamu
Akasaka HKN Bldg. 6F
8-6, Akasaka 1-chome
Minato-ku
Tokyo 107-0052
JAPON

Date of mailing (day/month/year) 09 November 2000 (09.11.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P00-925	
International application No. PCT/JP00/06267	
International publication date (day/month/year) Not yet published	
International filing date (day/month/year) 13 September 2000 (13.09.00)	Priority date (day/month/year) 21 September 1999 (21.09.99)
Applicant KAO CORPORATION et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
21 Sept 1999 (21.09.99)	11/267743	JP	06 Nove 2000 (06.11.00)

<p align="center">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer</p> <p align="center">Carlos Naranjo</p> <p align="right"><i>W</i></p> <p>Telephone No. (41-22) 338.83.38</p>
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0/088600

IC10 Rec'd PCT/PTO 21 MAR 2002
PATENT
0445-0320P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: YOSHIDA, Satoshi et al. Conf.:
Appl. No.: New Group:
Filed: March 21, 2002 Examiner:
For: DISPOSABLE DIAPER

LETTER

Assistant Commissioner for Patents
Washington, DC 20231

March 21, 2002

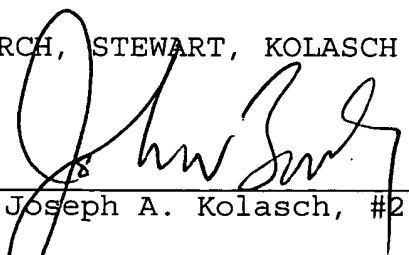
Sir:

The PTO is requested to use the amended sheets/claims attached hereto (*which correspond to Article 19 amendments or to claims attached to the International Preliminary Examination Report (Article 34)*) during prosecution of the above-identified national phase PCT application. Please also rely on the claims contained in the translation of the International Application as only claims 1 and 2 have been amended.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  #32,821
Joseph A. Kolasch, #22,463

JAK/cqc
0445-0320P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

Attachments

AMENDMENT

To: Examiner of Patent Office Shinko Uemae

1. Identification of the International Application

PCT/JP00/06267

2. Applicant

Name: Kao Corporation

Address: 14-10, Nihonbashi Kayaba-cho 1-chome, Chuo-ku,
TOKYO 103-8210 JAPAN

County of Nationality: JAPAN

County of Residence : JAPAN

3. Agent

Name: (7653) Patent Attorney HATORI Osamu

Address: AKASAKA HKN BLDG. 6F, 8-6, Akasaka 1-chome,
Minato-ku, TOKYO 107-0052 JAPAN

4. Items to be amended

Description and Claims

5. Subject Matter of Amendment

As per the attached sheets

[Subject Matters of Amendment]

(1) Amend the full paragraph appearing on page 2, lines 15 to 21 which reads "The present invention accomplishes ... 1000 Pa·s at 140°C." as follows.

---The present invention accomplishes the above objects by providing a disposable diaper having a liquid-permeable topsheet, a liquid-impermeable backsheet and a liquid-retentive absorbent member interposed between these sheets, wherein:

a side flap is provided on each side of a back portion of the diaper which is, while worn, positioned in the back of a wearer, a tape tab for fastening the diaper is provided on each side flap, said side flap is made of nonwoven fabric, and said tape tab is fixedly joined to said side flap with an hot-melt adhesive, and

said hot-melt adhesive has a melt viscosity of 10 to 1000 Pa·s at 140°C. ---

(2) Amend claim 1 as follows.

---A disposable diaper having a liquid-permeable topsheet, a liquid-impermeable backsheet and a liquid-retentive absorbent member interposed between these sheets, wherein:

a side flap is provided on each side of a back portion of the diaper which is, while worn, positioned in the back of a wearer, a tape tab for fastening the diaper is provided on each side flap, said side flap is made of nonwoven fabric, and said tape tab is fixedly joined to said side flap with an hot-melt adhesive, and

said hot-melt adhesive has a melt viscosity of 10 to 1000 Pa·s at 140°C. ---

(3) Amend claim 2 as follows.

---The disposable diaper according to claim 1, wherein said nonwoven fabric making said side flap has a basis weight of 7 to 30 g/m². ---

7. List of Attached Documents

(1) Page 2 of Description	1
(2) Page 16 of Claims	1

For the purpose of satisfying both the requirements for shear resistance characteristics and high-speed 180° peel strength characteristics, a diaper having tape tabs fixed as shown in Fig. 6 has been proposed, in which one end of a tape tab 18' is fixed to one side of a side flap 10' made of nonwoven fabric, and one end of an auxiliary tape 23' is fixed to the other side of the side flap 10', the other end of the auxiliary tape 23' being fixed to the tape tab 18'. However, this diaper needs an extra material for the auxiliary tape 23', which results in an increase of production cost.

Disclosure of the Invention:

Accordingly, an object of the present invention is to provide a disposable diaper having improved joint strength between constituent members thereof.

Another object of the present invention is to provide a disposable diaper having improved joint strength between a side flap and a tape tab for fastening the diaper while maintaining air-permeability of the side portions of the diaper.

The present invention accomplishes the above objects by providing a disposable diaper having a liquid-permeable topsheet, a liquid-impermeable backsheet and a liquid-retentive absorbent member interposed between these sheets, wherein:

a side flap is provided on each side of a back portion of the diaper which is, while worn, positioned in the back of a wearer, a tape tab for fastening the diaper is provided on each side flap, said side flap is made of nonwoven fabric, and said tape tab is fixedly joined to said side flap with an hot-melt adhesive, and

said hot-melt adhesive has a melt viscosity of 10 to 1000 Pa·s at 140°C.

The present invention also provides a method for manufacturing a disposable diaper as a preferred method for manufacturing the above-described disposable diaper, which comprises the steps of feeding the above-described hot-melt adhesive contained in a tank of an applicator to an application head through a feed conduit, applying the hot-melt adhesive to a first member constituting the diaper, and then fixedly joining a second member constituting the diaper to the first member, wherein the hot-melt adhesive contained in the tank is melted by heating to a prescribed temperature, and the temperature of the hot-melt adhesive present in the application head is set lower than that of the hot-melt adhesive contained in the tank.

CLAIMS

1.(amended) A disposable diaper having a liquid-permeable topsheet, a liquid-impermeable backsheet and a liquid-retentive absorbent member interposed between these sheets, wherein:

a side flap is provided on each side of a back portion of the diaper which is, while worn, positioned in the back of a wearer, a tape tab for fastening the diaper is provided on each side flap, said side flap is made of nonwoven fabric, and said tape tab is fixedly joined to said side flap with an hot-melt adhesive, and

said hot-melt adhesive has a melt viscosity of 10 to 1000 Pa·s at 140°C.

2.(amended) The disposable diaper according to claim 1, wherein said nonwoven fabric making said side flap has a basis weight of 7 to 30 g/m².

3. The method for manufacturing a disposable diaper according to claim 1, which comprises the steps of feeding said hot-melt adhesive contained in a tank of an applicator to an application head through a feed conduit, applying said hot-melt adhesive to a first member constituting the diaper, and then fixedly joining a second member constituting the diaper to said first member, wherein

said hot-melt adhesive contained in said tank is melted by heating to a prescribed temperature, and the temperature of said hot-melt adhesive present in said application head is set lower than that of said hot-melt adhesive contained in said tank.

WRITTEN REPLY

To: Examiner of Patent Office Shinko Uemae

1. Identification of the International Application

PCT/JP00/06267

2. Applicant

Name: Kao Corporation

Address: 14-10, Nihonbashi Kayaba-cho 1-chome, Chuo-ku,
TOKYO 103-8210 JAPAN

County of Nationality: JAPAN

County of Residence : JAPAN

3. Agent

Name: (7653) Patent Attorney HATORI Osamu

Address: AKASAKA HKN BLDG. 6F, 8-6, Akasaka 1-chome,
Minato-ku, TOKYO 107-0052 JAPAN

4. Date of Notification

17.04.0.1

5. Subject Matter of Reply

[I] Contents of Written Opinion

The invention claimed in claim 1 of the present application has been recognized not to be new in view of Reference 1 cited in the international search report.

The invention claimed in claim 2 of the present application has been recognized not to involve an inventive step in view of References 1 and 2 cited in the international search report.

The inventions according to claims 3 to 5 have been recognized not to involve an inventive step in view of References 1 and 3 cited in the international search report.

In response to the written opinion, the applicant has filed an amendment together with a written reply, in which the subject matter of claim 2 has been incorporated into claim 1 so as to make clear the differences between the instant invention and the cited references. The amendment, the applicant believes, will make the claimed inventions have novelty and involve an inventive step. The reasons therefor are as follows.

[II] Present Invention

[II-1] Claim elements of the present invention

The absorbent article according to the invention claimed in claim 1 as amended (hereinafter referred to as the present invention) comprises the following elements A to D.

- A. A disposable diaper having a liquid-permeable topsheet, a liquid-impermeable backsheet, and a liquid-retentive absorbent member interposed between these sheets.
- B. A side flap is provided on each side of a back portion of the diaper which is, while worn, positioned in the back of a wearer, and a tape tab for fastening the diaper is provided on each side flap.
- C. The side flap is made of nonwoven fabric, and the tape tab is fixedly joined to the side flap with a hot-melt adhesive.
- D. The hot-melt adhesive has a melt viscosity of 10 to 1000 Pa·s at 140°C.

[II-2] Advantageous effects of the present invention

The absorbent article according to the present invention comprising the above elements A to D produces the following advantageous effects (a) to (c) (see "Industrial

Applicability" described on page 15 of the Description).

- (a) The joint strength between the side flaps and the tape tabs is increased while retaining the breathability of the side flaps.
- (b) Since sufficient joint strength is secured without the aid of an auxiliary tape, the material to be used can be saved, which leads to a reduced production cost.
- (c) The amount of the backsheet can be reduced compared with conventional diapers, which also leads to a reduction in production cost.

[III] The cited references and comparisons between the present invention and the references

[III-1] Teachings of Reference 1 and comparison between the present invention and Reference 1

Reference 1 discloses an apparatus and a method for applying a coating material such as a hot-melt adhesive to components of a disposable diaper made up from an impervious synthetic film, a non-woven absorbent material or "fluff" and an elastic element for waist and leg area gatherings. Viscosities at various temperatures of the adhesive are given on page 8, left column of Reference 1 as follows (figures in the parentheses are values as converted according to the unit systems of the present invention).

41,700 centipoise at 275°F (41.7 Pa·s at 135°C)

25,050 centipoise at 350°F (25.05 Pa·s at 176.7°C)

16,575 centipoise at 325°C (16.575 Pa·s at 162.8°C)

11,325 centipoise at 350°F (11.325 Pa·s at 176.7°C)

Compared with the present invention, Reference 1 suggests that an adhesive having about the same melt viscosity as that of the hot-melt adhesive used in the present invention can be used for fabricating a diaper.

However, Reference 1 neither teaches nor suggests using a hot-melt adhesive having a specific melt viscosity in joining nonwoven fabric, which generally has a large void, and a tape tab for the purpose of satisfying both the requirements for shear resistance characteristics and 180° high-speed peel strength characteristics simultaneously. In fact, the object of the invention of Reference 1 is to form uniform adhesive coatings with sharp boundaries on intermittent discrete substrate areas. Reference 1 is silent to the use of a hot-melt adhesive having a specific melt viscosity for the purpose of fixedly joining tape tabs to side flaps made of nonwoven fabric with a joint strength enough to stand a tensile force exerted in the lateral direction while a

diaper is worn. Further, the invention of Reference 1 fails to produce the above-described advantageous effects (a) to (c) as obtained in the present invention. In summary, Reference 1 discloses nothing but existence of adhesives having about the same melt viscosity as that of the hot-melt adhesive used in the present invention. Accordingly, the applicant believes that the present invention is new and involves an inventive step over Reference 1.

[III-2] Teachings of Reference 2 and comparison between the present invention and of Reference 2

Reference 2 discloses a disposable diaper having a tape tab for fastening the diaper. The tape tab is adhered to each of side flaps made of nonwoven fabric with a hot-melt adhesive. As far as the aspect of the subject matter relevant to the present invention is concerned, there is no further teachings in Reference 2. That is, Reference 2 only discloses applicability of a hot-melt adhesive to joining of tape tabs to side flaps, having no mention of using a hot-melt adhesive having a specific melt viscosity for the purpose of joining tape tabs to side flaps made of nonwoven fabric with a joint strength enough to stand a tensile force exerted in the lateral direction while a diaper is worn. Accordingly, it is believed that the present invention carries novelty and an inventive step over Reference 2.

[III-3] Teachings of Reference 3 and comparison between the present invention and of Reference 3

Reference 3 teaches a method of producing a disposable absorbent member in which two materials are joined with an adhesive in such a manner that the adhesive is applied at an applying temperature of 80°C or higher and that the adhesive is fed at or above the applying temperature. Reference 3 neither discloses nor suggests the use of a hot-melt adhesive having a specific melt viscosity and joining a side flap made of nonwoven fabric and a tape tab with this hot-melt adhesive. Accordingly, the present invention is believed to be new and involve an inventive step over Reference 3.

[III-4] Comparison between the present invention and a combination of References 1 and 2

The examiner alleges in her written opinion that it is obvious for one skilled in the art to apply the hot-melt adhesive taught in Reference 1 to the diaper disclosed in

Reference 2. As stated above, the disclosure of Reference 1 is confined to the existence of an adhesive which has approximately the same melt viscosity as that of the hot-melt adhesive used in the present invention, and Reference 2 only teaches that a hot-melt adhesive is usable for joining a tape tab to a side flap. Neither Reference 1 nor Reference 2 teaches or suggests that a hot-melt adhesive having a specific melt viscosity is effective in fixing a tape tab to a nonwoven fabric-made side flap with a joint strength sufficient to stand the tensile force applied in the lateral direction while a diaper is worn. Accordingly, there is no technical grounds for making up the above-described elements A to D by using the hot-melt adhesive of Reference 1 in the diaper of Reference 2. The above-described advantageous effects (a) to (c) are remarkable results that are not expected from the teachings of References 1 and 2. Accordingly, the present invention involves an inventive step over the combination of References 1 and 2.

[IV] Conclusion

As described above, the present invention is not the same as any of the inventions of References 1, 2 and 3 and is not what would have been easily reached by those skilled in the art based on these references.

Therefore, the present invention is new and involves an inventive step. For the same reasons, the inventions claimed in claims 2 through 5 dependent on the present invention claimed in claim 1 also have novelty and an inventive step.

The applicant does hereby request the examiner to reconsider and to make an international preliminary examination report that all the inventions claimed in claims 1 to 5 have novelty and an inventive step.

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

47

Applicant's or agent's file reference P00-925	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP00/06267	International filing date (day/month/year) 13 September 2000 (13.09.00)	Priority date (day/month/year) 21 September 1999 (21.09.99)
International Patent Classification (IPC) or national classification and IPC A61F 13/49		
Applicant KAO CORPORATION		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>2</u> sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 31 January 2001 (31.01.01)	Date of completion of this report 20 September 2001 (20.09.2001)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP00/06267

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed

☒ the description:
 pages 1,3-15, as originally filed
 pages _____, filed with the demand
 pages 2, filed with the letter of 17 May 2001 (17.05.2001)

☒ the claims:
 pages 3-5, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages 1-2, filed with the letter of 17 May 2001 (17.05.2001)

☒ the drawings:
 pages 1-6, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
 These elements were available or furnished to this Authority in the following language _____ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
 - ☐ the language of publication of the international application (under Rule 48.3(b)).
 - ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1-5	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-5	NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims		NO

2. Citations and explanations

Document 1: Microfilm of the specification and drawing annexed to the written application of Japanese Utility Model Application No. 135096/1980 (Laid-open No. 59805/1982) (Kao Corp.), 8 April, 1982 (08.04.82) (Family: none)

Document 2: JP, 6-170308, A (Nordson Corp.), 21 June, 1994 (21.06.94), & US, 5423935, A, & EP, 579012, A

Document 3: JP, 8-277382, A (Kanebo NSC Ltd.), 22 October, 1996 (22.10.96) (Family: none)

Document 4: JP, 11-506367, A (The Proctor & Gamble Co.), 8 June, 1999 (08.06.99), & EP, 745433, A, & WO, 96-38114, A

The subject matters of claims 1 and 2 do not appear to involve an inventive step in view of documents 1-3 respectively cited in the ISR. Document 1 discloses a diaper, in which tape members and a main body are fixed using a hot melt adhesive with strong creep resistance (see page 5, lines 14-18). Document 1 also suggests the technique of fastening the tape members to a top sheet made from a non-woven fabric. The hot melt adhesive having such a melt viscosity level as described in claim 1 and used for fastening a diaper is a mere well-known technique as disclosed, for example, in documents 2 and 3. Furthermore, (1) providing a diaper with side flaps made from a non-woven fabric and (2) fastening tape members to the side flaps are merely commonly used means. A person skilled in the art could have easily (1) applied the commonly used means to the diaper disclosed in document 1 and (2) employed said well-known technique as the melt viscosity of the hot melt adhesive. The unit weight of the non-woven fabric used to form side flaps described in claim 2 is merely such a level as usually used by a person skilled in the art.

The subject matters of claims 3-5 do not appear to involve an inventive step in view of documents 1-3 and document 4 cited in the ISR. Document 4 suggests a technique of a disposable diaper, in which the adhesive coating temperature is kept lower than the adhesive delivering temperature (see claims 3 and 4). A person skilled in the art could have easily employed the technique suggested in document 4 as the method of coating a diaper with an adhesive disclosed in document 1. Furthermore, a person skilled in the art could also have easily set the temperatures of the hot melt adhesive in a tank and a coating head, as described in claim 5 (see page 8, left column of document 2 and column [0021] of document 3).

PCT

国際予備審査報告

(法第12条、法施行規則第56条)
[PCT36条及びPCT規則70]

REC'D 05 OCT 2001

WIPO PCT

出願人又は代理人 の書類記号 P00-925	今後の手続きについては、国際予備審査報告の送付通知(様式PCT/ IPEA/416)を参照すること。	
国際出願番号 PCT/JP00/06267	国際出願日 (日.月.年) 13.09.00	優先日 (日.月.年) 21.09.99
国際特許分類(IPC) Int. Cl ⁷ A61F13/49		
出願人(氏名又は名称) 花王株式会社		

1. 国際予備審査機関が作成したこの国際予備審査報告を法施行規則第57条(PCT36条)の規定に従い送付する。
2. この国際予備審査報告は、この表紙を含めて全部で 3 ページからなる。
- ☒ この国際予備審査報告には、附属書類、つまり補正されて、この報告の基礎とされた及び/又はこの国際予備審査機関に対してした訂正を含む明細書、請求の範囲及び/又は図面も添付されている。
(PCT規則70.16及びPCT実施細則第607号参照)
この附属書類は、全部で 2 ページである。

3. この国際予備審査報告は、次の内容を含む。
- I ☒ 国際予備審査報告の基礎
- II ☐ 優先権
- III ☐ 新規性、進歩性又は産業上の利用可能性についての国際予備審査報告の不作成
- IV ☐ 発明の単一性の欠如
- V ☒ PCT35条(2)に規定する新規性、進歩性又は産業上の利用可能性についての見解、それを裏付けるための文献及び説明
- VI ☐ ある種の引用文献
- VII ☐ 国際出願の不備
- VIII ☐ 国際出願に対する意見

国際予備審査の請求書を受理した日 31.01.01	国際予備審査報告を作成した日 20.09.01	
名称及びあて先 日本国特許庁(IPEA/JP) 郵便番号100-8915 東京都千代田区霞が関三丁目4番3号	特許庁審査官(権限のある職員) 水野 治彦 電話番号 03-3581-1101 内線 3320	3B 9254

I. 国際予備審査報告の基礎

1. この国際予備審査報告は下記の出願書類に基づいて作成された。(法第6条(PCT14条)の規定に基づく命令に
応答するために提出された差し替え用紙は、この報告書において「出願時」とし、本報告書には添付しない。
PCT規則70.16, 70.17)

☐ 出願時の国際出願書類

☒ 明細書 第 1, 3-15 ページ、 出願時に提出されたもの
明細書 第 _____ ページ、 国際予備審査の請求書と共に提出されたもの
明細書 第 2 ページ、 17.05.01 付の書簡と共に提出されたもの

☒ 請求の範囲 第 3-5 項、 出願時に提出されたもの
請求の範囲 第 _____ 項、 PCT19条の規定に基づき補正されたもの
請求の範囲 第 _____ 項、 国際予備審査の請求書と共に提出されたもの
請求の範囲 第 1-2 項、 17.05.01 付の書簡と共に提出されたもの

☒ 図面 第 1-6 ページ/図、 出願時に提出されたもの
図面 第 _____ ページ/図、 国際予備審査の請求書と共に提出されたもの
図面 第 _____ ページ/図、 _____ 付の書簡と共に提出されたもの

☐ 明細書の配列表の部分 第 _____ ページ、 出願時に提出されたもの
明細書の配列表の部分 第 _____ ページ、 国際予備審査の請求書と共に提出されたもの
明細書の配列表の部分 第 _____ ページ、 _____ 付の書簡と共に提出されたもの

2. 上記の出願書類の言語は、下記に示す場合を除くほか、この国際出願の言語である。

上記の書類は、下記の言語である _____ 語である。

- ☐ 国際調査のために提出されたPCT規則23.1(b)にいう翻訳文の言語
☐ PCT規則48.3(b)にいう国際公開の言語
☐ 国際予備審査のために提出されたPCT規則55.2または55.3にいう翻訳文の言語

3. この国際出願は、ヌクレオチド又はアミノ酸配列を含んでおり、次の配列表に基づき国際予備審査報告を行った。

- ☐ この国際出願に含まれる書面による配列表
☐ この国際出願と共に提出されたフレキシブルディスクによる配列表
☐ 出願後に、この国際予備審査(または調査)機関に提出された書面による配列表
☐ 出願後に、この国際予備審査(または調査)機関に提出されたフレキシブルディスクによる配列表
☐ 出願後に提出した書面による配列表が出願時における国際出願の開示の範囲を超える事項を含まない旨の陳述書の提出があった
☐ 書面による配列表に記載した配列とフレキシブルディスクによる配列表に記載した配列が同一である旨の陳述書の提出があった。

4. 補正により、下記の書類が削除された。

☐ 明細書 第 _____ ページ
☐ 請求の範囲 第 _____ 項
☐ 図面 図面の第 _____ ページ/図

5. ☐ この国際予備審査報告は、補充欄に示したように、補正が出願時における開示の範囲を越えてされたものと認められるので、その補正がされなかったものとして作成した。(PCT規則70.2(c) この補正を含む差し替え用紙は上記1.における判断の際に考慮しなければならず、本報告に添付する。)

V. 新規性、進歩性又は産業上の利用可能性についての法第12条（PCT35条(2)）に定める見解、それを裏付ける文献及び説明

1. 見解

新規性 (N)	請求の範囲	1-5	有
	請求の範囲		無
進歩性 (IS)	請求の範囲		有
	請求の範囲	1-5	無
産業上の利用可能性 (IA)	請求の範囲	1-5	有
	請求の範囲		無

2. 文献及び説明 (PCT規則70.7)

- 文献1：日本国実用新案登録出願55-135096号（日本国実用新案登録出願公開57-59805号）の願書に添付した明細書または図面の内容を撮影したマイクロフィルム（花王石鹼株式会社），8. 4月. 1982（08. 04. 82）（ファミリーなし）
- 文献2：JP 6-170308 A（ノートン コーポレーション），21. 6月. 1994（21. 06. 94）&US 5423935 A&EP 579012 A
- 文献3：JP 8-277382 A（カネウチ・エヌエス株式会社），22. 10月. 1996（22. 10. 96）（ファミリーなし）
- 文献4：JP 11-506367 A（ザ・プロクター・エンド・ギャンブル・カンパニー），8. 6月. 1999（08. 06. 99）&EP 745433 A&WO 96/38114 A

請求の範囲1，2に記載された発明は、国際調査報告で引用した文献1、文献2及び文献3により進歩性を有しない。文献1は、テープ部材と本体とを耐クリープ性の強いホットメルト粘着材を用いて固定したおむつを開示する（第5頁第14-18行を参照）。また、文献1はテープ部材を不織布製のトップシートに固定する技術も示唆する。そして、おむつの固着に用いられるホットメルト粘着材として、請求項1に記載された程度の熔融粘度を有するものは、例えば文献2，文献3に開示されたように周知技術にすぎない。また、おむつに不織布からなるサイドフラップを設け、サイドフラップにテープ部材を固着することは、慣用手段にすぎない。そして、文献1に開示されたおむつに慣用手段を適用し、さらに、ホットメルト粘着材の熔融粘度として、上記周知技術を採用することは、当業者であれば容易である。なお、請求項2に記載されたサイドフラップを構成する不織布の秤量は、当業者が通常用いる程度の値にすぎない。

請求の範囲3-5に記載された発明は、文献1，文献2，文献3及び国際調査報告で引用した文献4により進歩性を有しない。文献4は、使い捨て吸収体において、接着剤の塗布温度を送出温度より低くする技術を示唆する（請求項3，4を参照）。そして、文献1に開示されたおむつの粘着材の塗布方法として、文献4に示唆する技術を採用することは、当業者であれば容易である。また、タンク内及び塗工ヘッド内のホットメルト粘着材の温度を、請求項5に示す用に設定することも、当業者であれば容易である（文献2第8頁左欄及び文献3【0021】欄を参照）。

80°剥離強度特性を同時に満足させることを目的として、例えば図6に示すように、不織布から構成されるサイドフラップ10'の一面に、ファスニングテープ18'の一端を固定し、またサイドフラップ10'の他面に、補助テープ23'の一端を固定し、更に該補助テープ23'の他端をファスニングテープ18'に固定したおむつが提案されている。しかし、このおむつでは、補助テープ23'の分だけ材料が余計に必要となり、製造経費が高くなってしまう。

発明の開示

従って、本発明は、おむつを構成する部材間の接合強度が向上した使い捨ておむつを提供することを目的とする。

また、本発明は、特に、サイド部の通気性を維持しつつ、サイドフラップとファスニングテープとの接合強度が向上した使い捨ておむつを提供することを目的とする。

本発明は、液透過性のトップシート、液不透過性のバックシート及び両シート間に介在された液保持性の吸収体を備えた使い捨ておむつにおいて、

着用時に着用者の背側に位置する背側部の左右両側部にサイドフラップがそれぞれ形成され、該サイドフラップにおむつ止着用のファスニングテープがそれぞれ配されており、

前記サイドフラップが不織布から構成されており、前記ファスニングテープが、ホットメルト粘着剤によって前記サイドフラップに接合固定されており、

前記ホットメルト粘着剤として、140℃における熔融粘度が10～1000Pa・sのホットメルト粘着剤を用いた使い捨ておむつを提供することにより前記目的を達成したものである。

また本発明は、前記使い捨ておむつの好ましい製造方法として、アプリケーションのタンク内にある前記ホットメルト粘着剤を、搬送管を介して塗工ヘッドに送り出し、該塗工ヘッドによって前記おむつを構成する一の部材に前記ホットメルト粘着剤を塗布した後、

請 求 の 範 囲

1 (補正後) . 液透過性のトップシート、液不透過性のバックシート及び両シート間に介在された液保持性の吸収体を備えた使い捨ておむつにおいて、

5 着用時に着用者の背側に位置する背側部の左右両側部にサイドフラップがそれぞれ形成され、該サイドフラップにおむつ止着用のファスニングテープがそれぞれ配されており、

前記サイドフラップが不織布から構成されており、前記ファスニングテープが、ホットメルト粘着剤によって前記サイドフラップに接合固定されており、

10 前記ホットメルト粘着剤として、 140°C における熔融粘度が $10\sim 1000\text{Pa}\cdot\text{s}$ のホットメルト粘着剤を用いた使い捨ておむつ。

15 2 (補正後) . 前記サイドフラップを構成する不織布の坪量が $7\sim 30\text{g}/\text{m}^2$ である請求の範囲第1項記載の使い捨ておむつ。

3 . 請求の範囲第1項記載の使い捨ておむつの製造方法であって、

20 アプリケータのタンク内にある前記ホットメルト粘着剤を、搬送管を介して塗工ヘッドに送り出し、該塗工ヘッドによって前記おむつを構成する一の部材に前記ホットメルト粘着剤を塗布した後、前記おむつを構成する他の部材を前記一の部材に接合固定することで前記おむつを製造するに際して、

25 前記タンク内の前記ホットメルト粘着剤を所定温度に加熱熔融させ、前記塗工ヘッド内の前記ホットメルト粘着剤の温度を前記タンク内の前記ホットメルト粘着剤の温度よりも低く設定する使い捨ておむつの製造方法。

国際調査報告

(法 8 条、法施行規則第40、41条)
〔PCT 18条、PCT規則43、44〕

出願人又は代理人 の書類記号 P 0 0 - 9 2 5	今後の手続きについては、国際調査報告の送付通知様式(PCT/ISA/220) 及び下記5を参照すること。	
国際出願番号 PCT/J P 0 0 / 0 6 2 6 7	国際出願日 (日.月.年) 1 3 . 0 9 . 0 0	優先日 (日.月.年) 2 1 . 0 9 . 9 9
出願人 (氏名又は名称) 花王株式会社		

国際調査機関が作成したこの国際調査報告を法施行規則第41条 (PCT 18条) の規定に従い出願人に送付する。
この写しは国際事務局にも送付される。

この国際調査報告は、全部で 3 ページである。

☐ この調査報告に引用された先行技術文献の写しも添付されている。

1. 国際調査報告の基礎

a. 言語は、下記に示す場合を除くほか、この国際出願がされたものに基づき国際調査を行った。

☐ この国際調査機関に提出された国際出願の翻訳文に基づき国際調査を行った。

b. この国際出願は、ヌクレオチド又はアミノ酸配列を含んでおり、次の配列表に基づき国際調査を行った。

☐ この国際出願に含まれる書面による配列表

☐ この国際出願と共に提出されたフレキシブルディスクによる配列表

☐ 出願後に、この国際調査機関に提出された書面による配列表

☐ 出願後に、この国際調査機関に提出されたフレキシブルディスクによる配列表

☐ 出願後に提出した書面による配列表が出願時における国際出願の開示の範囲を超える事項を含まない旨の陳述書の提出があった。

☐ 書面による配列表に記載した配列とフレキシブルディスクによる配列表に記録した配列が同一である旨の陳述書の提出があった。

2. ☐ 請求の範囲の一部の調査ができない (第 I 欄参照)。

3. ☐ 発明の単一性が欠如している (第 II 欄参照)。

4. 発明の名称は ☒ 出願人が提出したものを承認する。

☐ 次に示すように国際調査機関が作成した。

5. 要約は ☒ 出願人が提出したものを承認する。

☐ 第 III 欄に示されているように、法施行規則第47条 (PCT規則38.2(b)) の規定により国際調査機関が作成した。出願人は、この国際調査報告の発送の日から 1 カ月以内にこの国際調査機関に意見を提出することができる。

6. 要約書とともに公表される図は、

第 2 A 図とする。 ☒ 出願人が示したとおりである。

☐ なし

☐ 出願人は図を示さなかった。

☐ 本図は発明の特徴を一層よく表している。

A. 発明の属する分野の分類 (国際特許分類 (IPC))

Int.Cl.⁷ A61F13/49

B. 調査を行った分野

調査を行った最小限資料 (国際特許分類 (IPC))

Int.Cl.⁷ A61F13/49-13/84, C09J1/00-201/10

最小限資料以外の資料で調査を行った分野に含まれるもの

日本国実用新案公報 1926-1996年

日本国公開実用新案公報 1971-1996年

日本国登録実用新案公報 1994-1999年

日本国実用新案登録公報 1996-1999年

国際調査で使用した電子データベース (データベースの名称、調査に使用した用語)

C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
X	J P, 6-170308, A (ノードソン コーポレーション), 21. 6月. 1994 (21. 06. 94)	1
Y	& US, 5423935, A & EP, 579012, A	2-5
Y	J P, 10-225481, A (王子製紙株式会社), 25. 8月. 1998 (25. 08. 98), (ファミリーなし)	2
Y	J P, 11-506367, A (ザ、プロクター、エンド、ギャン ブル、カンパニー), 8. 6月. 1999 (08. 06. 99) & EP, 745433, A & WO, 96038114, A	3-5

☒ C欄の続きにも文献が列挙されている。☐ パテントファミリーに関する別紙を参照。

* 引用文献のカテゴリー

「A」 特に関連のある文献ではなく、一般的技術水準を示すもの

「E」 国際出願日前の出願または特許であるが、国際出願日以後に公表されたもの

「L」 優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す)

「O」 口頭による開示、使用、展示等に言及する文献

「P」 国際出願日前で、かつ優先権の主張の基礎となる出願

の日の後に公表された文献

「T」 国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの

「X」 特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの

「Y」 特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの

「&」 同一パテントファミリー文献

国際調査を完了した日

11. 12. 00

国際調査報告の発送日

19.12.00

国際調査機関の名称及びあて先

日本国特許庁 (ISA/J P)

郵便番号100-8915

東京都千代田区霞が関三丁目4番3号

特許庁審査官 (権限のある職員)

植前 津子



3 B

9438

電話番号 03-3581-1101 内線

C (続き). 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
X Y	JP, 8-277382, A (カネボウ・エヌエスシー株式会社), 22. 10月. 1996 (22. 10. 96), (ファミリーなし)	1 2-5
X Y	JP, 3-160083, A (カネボウ・エヌエスシー株式会社), 10. 7月. 1991 (10. 07. 91), (ファミリーなし)	1 2-5
X Y	JP, 9-302319, A (花王株式会社), 25. 11月. 1997 (25. 11. 97), (ファミリーなし)	1 2-5
X Y	JP, 10-510732, A (ザ、プロクター、エンド、ギャン ブル、カンパニー), 20. 10月. 1998 (20. 10. 98) & US, 5560878, A & EP, 788336, A	1 2-5
A	日本国実用新案登録出願55-135096号 (日本国実用新案登 録出願公開57-59805号) の願書に添付した明細書及び図面 の内容を撮影したマイクロフィルム (花王石鹸株式会社) 8. 4月. 1982 (08. 04. 82), (ファミリーなし)	2
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP00/06267

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ A61F13/49

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ A61F13/49-13/84, C09J1/00-201/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-1999
Kokai Jitsuyo Shinan Koho 1971-1996 Jitsuyo Shinan Toroku Koho 1996-1999

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP, 6-170308, A (Nordson Corporation), 21 June, 1994 (21.06.94) & US, 5423935, A & EP, 579012, A	1 2-5
Y	JP, 10-225481, A (Oji Paper Co., Ltd.), 25 August, 1998 (25.08.98) (Family: none)	2
Y	JP, 11-506367, A (The Proctor & Gamble Company), 08 June, 1999 (08.06.99) & EP, 745433, A & WO, 96038114, A	3-5
X Y	JP, 8-277382, A (Kanebo NSC Ltd.), 22 October, 1996 (22.10.96) (Family: none)	1 2-5
X Y	JP, 3-160083, A (Kanebo NSC Ltd.), 10 July, 1991 (10.07.91) (Family: none)	1 2-5
X Y	JP, 9-302319, A (Kao Corporation), 25 November, 1997 (25.11.97) (Family: none)	1 2-5
X Y	JP, 10-510732, A (The Proctor & Gamble Company), 20 October, 1998 (20.10.98)	1 2-5

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search
11 December, 2000 (11.12.00)

Date of mailing of the international search report
19 December, 2000 (19.12.00)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP00/06267

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	& US, 5560878, A & EP, 788336, A	
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No.135096/1980 (Laid-open No.59805/1982) (Kao Sekken K.K.), 08 April, 1982 (08.04.82) (Family: none)	2
A	JP, 3-165763, A (Oji Paper Co., Ltd., et al.), 17 July, 1991 (17.07.91) (Family: none)	2